Patent Claims

1. A method for producing an SiO_2 blank by forming SiO_2 particles in a burner flame assigned to a deposition burner and by depositing said particles under the effect of an electrical field on a deposition surface of a carrier rotating about its longitudinal axis, said at least one deposition burner being reciprocated in a predetermined sequence of movement along the developing blanks between turn-around points, characterized in that the geometrical shape of said burner flame is varied by said electrical field in dependence upon the position of said deposition burner during the sequence of movement.

2. The method according to claim 1, characterized in that the width of the burner flame, when viewed in the direction of the longitudinal axis of said carrier, is varied in dependence upon the position of said deposition burner during the sequence of movement.

3. The method according to claim 1, characterized in that the width of said burner flame, when viewed in a direction perpendicular to the longitudinal axis of said carrier, is varied in dependence upon the position of said deposition burner during the sequence of movement.

4. The method according to any one of claims 1 to 3, characterized in that in a position of said deposition burner in the area of said turn-around points, the width of said burner flame is varied by means of said electrical field.

5. The method according to any one of the preceding claims, characterized in that a plurality of deposition burners are used which, when viewed in the direction of the longitudinal axis of said carrier, are spaced apart from one another and which in a predetermined sequence of movement are reciprocated in synchronism along the developing blank between turn-around points, the geometrical shape of the respective burner flames being changed in synchronism by said electrical field in dependence upon the position of said deposition burners during the sequence of movement.

6. The method according to claim 5, characterized in that a plurality of electrical fields assigned to said burner flames are varied in synchronism in a change cycle correlated with the sequence of movement of said deposition burners.

7. The method according to claim 6, characterized in that the change cycles of neighboring electrical fields are in phase.

8. The method according to claim 7, characterized in that the change cycles of neighboring electrical fields are phase-shifted.

9. The method according to claim 8, characterized in that the change cycles of neighboring electrical fields are in phase opposition.

10. The method according to any one of the preceding claims, characterized in that said electrical field is adjusted such that a gas discharge is avoided.

11. An apparatus for producing an SiO_2 blank, comprising a carrier which is rotatable about its longitudinal axis, at least one deposition burner for producing SiO_2 particles in a burner flame assigned to said deposition burner, a drive device by means of which said deposition burner can be reciprocated along said carrier in a predetermined sequence of movement along the developing blank over a path of movement between turn-around points, and a pair of electrodes connected to a source of voltage for producing an electrical field which is operative in the area of said burner flame, characterized in that said electrical field, when viewed along the path of movement, is locally inhomogeneous or variable in time in dependence upon the position of said deposition burner during the sequence of movement of said deposition burner.

12. The apparatus according to claim 11, characterized in that said pair of electrodes is arranged laterally relative to said burner flame when viewed in the direction of the longitudinal axis of said carrier.

13. The apparatus according to claim 12, characterized in that said pair of electrodes is arranged laterally relative to said burner flame when viewed in a direction perpendicular to the longitudinal axis of said carrier.

14. The apparatus according to claim 12 or 13, characterized in that said pair of electrodes is formed from plate electrodes arranged in the lower area of said burner flame.

15. The apparatus according to any one of claims 11 to 14, characterized in that said source of voltage and said drive device are connected to a control device by

means of which said electrical field can be varied and adjusted in dependence upon the position of said deposition burner during the sequence of movement of said deposition burner in the area of said burner flame.

16. The apparatus according to any one of claims 11 to 15, characterized in that there are provided a plurality of deposition burners which are spaced apart from one another and connected to said drive device and which can be reciprocated in synchronism along said carrier during a predetermined sequence of movement between turn-around points, and that each of said deposition burners has assigned thereto a pair of electrodes for producing said electrical field in the area of the burner flame assigned thereto.

17. The apparatus according to any one of claims 11 to 15, characterized in that said deposition burners are arranged in at least one row of burners extending in parallel with the longitudinal axis of said carrier, with the pair of electrodes being arranged at both sides of said row of burners for producing said electrical field.

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